



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/813,082	03/20/2001	Martin Birk	1999-0540A	1379

7590 03/29/2004

MR. S. H. DWORETSKY, AT&T CORP.
P.O. BOX 4110
MIDDLETOWN, NJ 07748

EXAMINER

AL NAZER, LEITH A

ART UNIT	PAPER NUMBER
----------	--------------

2828

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/813,082

Applicant(s)

BIRK, MARTIN

Examiner

Leith A Al-Nazer

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kleveland et al '929.

With respect to claims 1, 2, 16, and 18-20, Kleveland teaches a circuit comprising a nonlinear transmission line circuit having an input and an output; and a pulse-forming circuit (248) coupled to the nonlinear transmission line, the pulse-forming circuit including a reverse-biased diode (248) coupled in series with the output of the nonlinear transmission line circuit (figure 2C).

With respect to claim 3, Kleveland teaches the circuit being fabricated from high-resistivity silicon (239; column 3, lines 34-38).

With respect to claim 4, Kleveland teaches the nonlinear transmission line including a plurality of reverse-biased Schottky diodes (251-254; column 4, lines 45-50) coupled to a central conductor.

With respect to claim 17, Kleveland teaches the pulse-forming circuit including a reverse-biased diode (248) coupled to the nonlinear transmission line.

Art Unit: 2828

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 12-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Geis et al '240.

With respect to claims 12, 14, 16, and 18, Geis teaches a nonlinear transmission line (512), a pulse forming circuit (510) coupled to the nonlinear transmission line, a gate (T1) coupled to the pulse forming circuit, an optical modulator (530) coupled to the gate, and a laser (DL) coupled to the modulator.

With respect to claims 13, 19, and 20, Geis teaches the system being integrated on a silicon substrate (column 7, lines 50-55).

With respect to claims 15 and 17, Geis teaches the pulse forming circuit including a reverse-biased diode (510).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2828

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleveland et al '929 in view of Geis et al '240.

Claim 5 requires a gate device be coupled to the pulse-forming circuit. Geis teaches a gate device (T1) being coupled to the pulse-forming circuit (510). At the time of the invention, it would have been obvious to one having ordinary skill in the art to couple a gate device to the pulse-forming circuit. The motivation for doing so would have been to control the signals from the pulse-forming circuit in a desired way, such as suppressing the signals at certain time periods.

Claims 6-11 require a modulator be coupled to the gate and a laser coupled to the modulator for generating optical pulses. Geis teaches such a configuration (figure 17). At the time of the invention, it would have been obvious to one having ordinary skill in the art to have a modulator coupled to the gate and a laser coupled to the modulator. The motivation for doing so would have been to provide means for comparing and altering a property the first signal based on properties of the second signal.

Art Unit: 2828

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

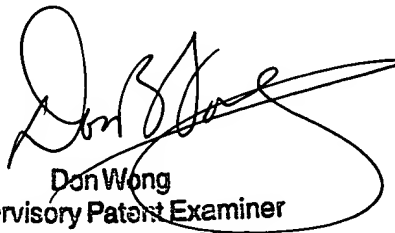
Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leith A Al-Nazer whose telephone number is 571-272-1938. The examiner can normally be reached on Monday-Friday 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 571-272-1941. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LA


Don Wong
Supervisory Patent Examiner
Technology Center 2800
571 272 1834